

C 5' concd

b) washing the resulting hybrid under non-stringent conditions; and

c) detecting said hybrid.

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44. (Once Amended) The method of claim 42, wherein said nucleic acid comprises nucleotides 1-380 of the U3/R region of HIV-2, wherein said nucleotides 1-380 comprise[s] the following sequence:

C 2

FIG. 6

GTGGAAAGGCAGAGACTGAAAGCAGAGGAATACCACTTGTAAAGGACAG
GAACAGCTATACTTGGTCAGGGCAGGAAGTAACAAACAGAAACAGCTGAG
ACTGCAGGGACTTTCCAGAAGGGCTGTAACTAACCAAGGGAGGGACATGGGAG
GAGCTGGTGGGAAACGCTCATTTCTCTGTATAATATACCCGCTGCTTG
CATTGTACTTCAGTCGCTCTGGGAGAGGCTGGCAGATTGAGCCCTGGAG
GATCTCTCCAGCACTAACGGATGAGCCTGGGTGCCCTGCTAGACTCTCA
CCAGCACTTGGCCGGTGGCAGACGGCCCCACGCTTGCCTGCTTAAAG
ACCTTCCTTATAAAGCTGGAGTAGAAGCA

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1241: probe
45. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-1566 of the qag gene of HIV-2: **GAGRODD**

MetGlyAlaArgAsnSerValLeuArgGlyLysLysAlaAspGly

LeuGluArgIleArgLeuArgProGlyGlyLysLysLysTyrArg

LeuLysHisIleValTrpAlaAlaAsnLysLeuAspArgPheGly

100

LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGlnLysIle

LeuThrValLeuAspProMetValProThrGlySerGluAsnLeu

200

LysSerLeuPheAsnThrValCysValIleTrpCysIleEisAla

GluGluLysValLysAspThrGlyAlaLysGlnIleValArg

300

ArgHisLeuValAlaGluThrGlyThrAlaGluLysMetProSer

ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsnTyr

400

ProValGlnHisValGlyGlyAsnTyrThrHisIleProLeuSer

ProArgThrLeuAsnAlaTrpValLysLeuValGluGluLysLys

PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly

500

CysThrProTyrAspIleAsnGlnMetLeuAsnCysValGlyAsp

EisGlnAlaAlaMetGlnIleIleArgGluIleIleAsnGluGlu

600

AlaAlaGluTrpAspValGlnHisProIleProGlyProLeuPro

AlaGlyGlnLeuArgGluProArgGlySerAspIleAlaGlyThr

700

ThrSerThrValGluGluGlnIleGlnTrpMetPheArgProGln

AsnProValProValGlyAsnIleTyrArgArgTrpIleGlnIle
GlyLeuGlnLysCysValArgMetTyrAsnProThrAsnIleLeu 800
AspIleLysGlnGlyProLysGluProPheGlnSerTyrValAsp
ArgPheTyrLysSerLeuArgAlaGluGlnThrAspProAlaVal 900
LysAsnTrpMetThrGlnThrLeuLeuValGlnAsnAlaAsnPro
AspCysLysLeuValLeuLysGlyLeuGlyMetAsnProThrLeu
1000 GluGluMetLeuThrAlaCysGlnGlyValGlyGlyProGlyGln
LysAlaArgLeuMetAlaGluAlaLeuLysGluValIleGlyPro
AlaProIleProPheAlaAlaAlaGlnGlnArgLysAlaPheLys 1100
CysTrpAsnCysGlyLysGluGlyHisSerAlaArgGlnCysArg
AlaProArgArgGlnGlyCysTrpLysCysGlyLysProGlyHis 1200
IleMetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu
GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal 1300
ProGlnGlyLeuThrProThrAlaProProValAspProAlaVal
AspLeuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGlu
1400 GlnArgGluArgProTyrLysGluValThrGluAspLeuLeuHis
LeuGluGlnGlyGluThrProTyrArgGluProProThrGluAsp
LeuLeuHisLeuAsnSerLeuPheGlyLysAspGln 1500

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C2

46. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1114-1524 of the gag gene of HIV-2:

Arg Lys Ala Phe Lys
Cys Trp Asn Cys Gly Lys Glu Gly His Ser Ala Arg Gln Cys Arg
...
1200
Ala Pro Arg Arg Gln Gly Cys Trp Lys Cys Gly Lys Pro Gly His
Ile Met Thr Asn Cys Pro Asp P Arg Gln Ala Gly Phe Leu Gly Leu
1300
Gly Pro Trp Gly Lys Lys Pro Arg Asn Phe Pro Val Ala Gln Val
Pro Gln Gly Leu Thr Pro Thr Ala Pro Pro Val Asp Pro Ala Val
Asp Leu Leu Glu Lys Tyr Met Gln Gln Gly Lys Arg Gln Arg Gln
1400
Gln Arg Glu Arg Pro Tyr Lys Glu Val Thr Glu Asp Leu Leu His
Leu Gln Gln Gly Glu Thr Pro Tyr Arg Glu Pro Pro Thr Glu Asp
1500
Leu Leu His Leu Asn Ser Leu Phe Gly Lys Asp Gln

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C 2

47. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-405 of the gag gene of HIV-2:

Met Gly Ala Arg Asn Ser Val Leu Arg Gly Lys Lys Ala Asp Glu
Leu Glu Arg Ile Arg Leu Arg Pro Gly Gly Lys Lys Tyr Arg
Leu Lys His Ile Val Trp Ala Ala Asn Lys Leu Asp Arg Phe Gly
100 Leu Ala Glu Ser Leu Leu Glu Ser Lys Glu Gly Cys Glu Lys Ile
Leu Thr Val Leu Asp Pro Met Val Pro Thr Gly Ser Glu Asn Leu
200 Lys Ser Leu Phe Asn Thr Val Cys Val Ile Trp Cys Ile Eis Ala
Glu Glu Lys Val Lys Asp Thr Glu Gly Ala Lys Glu Ile Val Arg
300 Arg His Leu Val Ala Glu Thr Gly Thr Ala Glu Lys Met Pro Ser
Thr Ser Arg Pro Thr Ala Pro Ser Ser Glu Lys Gly Gly Asn Tyr
400

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48. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 406-1155 of the gag gene of HIV-2:

ProValGlnHisValGlyGlyAsnTyrThrHisIleProLeuSer

ProArgThrLeuAsnAlaTrpValLysLauValGluGlnLysLys

PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly

500

CysThrProTyrAspPheAsnGlnMetLeuAsnCysValGlyAsp

HisGlnAlaAlaMetGlnIleIleArgGlnIleIleAsnGluGln

600

AlaAlaGluTrpAspValGlnHisProIleProGlyProLeuPro

AlaGlyGlnLeuArgGluProArgGlySerAspIleAlaGlyThr

700

ThrSerThrValGluGluGlnIleGlnTrpMetPheArgProGln

AsnProValProValGlyAsnIleTyrArgArgTrpIleGlnIle

800

GlyLeuGlnLysCysValArgMetTyrAsnProThrAsnIleLeu

AspIleLysGlnGlyProLysGluProPheGlnSerTyrValAsp

900

ArgPheTyrLysSerLeuArgAlaGluGlnThrAspProIleVal

LysAsnTrpMetThrGlnIleThrLeuLeuValGlnAsnAlaAsnPro

AspCysLysLeuValLeuLysGlyLeuGlyMetAsnProThrLeu

1000

GluGluMetLeuThrAlaCysGlnGlyValGlyProGlyGln

LysAlaArgLeuMetAlaGlnAlaLeuLysGluValIleGlyPro

1100

AlaProIleProPheAlaAlaAlaGlnGln

probe

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probe
49. (Once Amended) The method of claim 42, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-2673 of the env gene of HIV-2. ENVRE

Met Met Asn Gln Leu Leu Ile Ala Ile Leu Leu Ala Ser Ala Cys

Leu Val Tyr Cys Thr Gln Tyr Val Thr Val Phe Tyr Gly Val Pro

Thr Trp Lys Asn Ala Thr Ile Pro Leu Phe Cys Ala Thr Arg Asn

100

Arg Asp Thr Trp Gly Thr Ile Gln Cys Leu Pro Asp Asp Asp Asp

Tyr Gln Glu Ile Thr Leu Asn Val Thr Gln Ala Phe Asp Ala Trp

200

Asn Asn Thr Val Thr Gln Gln Ala Ile Glu Asp Val Trp His Leu

Phe Glu Thr Ser Ile Lys Pro Cys Val Lys Leu Thr Pro Leu Cys

300

Val Ala Ile Lys Cys Ser Ser Thr Glu Ser Ser Thr Gly Asn Asn

Thr Thr Ser Lys Ser Thr Ser Thr Thr Thr Thr Pro Thr Asp

400

Gln Gln Gln Glu Ile Ser Glu Asp Thr Pro Cys Ala Arg Ala Asp

Asn Cys Ser Gly Leu Gly Glu Glu Thr Ile Asn Cys Gln Phe

Asn Met Thr Gly Leu Glu Arg Asp Lys Lys Glu Tyr Asn Gln

500

Thr Trp Tyr Ser Lys Asp Val Val Cys Glu Thr Asn Asn Ser Thr

Asn Gln Thr Gln Cys Tyr Met Asn Eis Cys Asn Thr Ser Val Ile

600

Thr Glu Ser Cys Asp Lys Zis Tyr Trp Asp Ala Ile Arg Phe Arg

Tyr Cys Ala Pro Pro Gly Tyr Ala Leu Leu Arg Cys Asn Asp Thr

700

Asn Tyr Ser Gly Phe Ala Pro Asn Cys Ser Lys Val Val Ala Ser

C 2

ThrCysThrArgMetMetGluThrGlnThrSerThrTrpPheGly
800
PheAsnGlyThrArgAlaGluAsnArgThrTyrIleTyrTrpHis
GlyArgAspAsnArgThrIleIleSerLeuAsnLysTyrTyrAsn
900
LeuSerLeuHisCysLysArgProGlyAsnLysThrValLysGln
IleMetLeuMetSerGlyHisValPheHisSerEisTyrGlnPro
IleAsnLysArgProArgGlnAlaIleTrpCysTrpPheLysGlyLys
1000
TrpLysAspAlaMetGlnGluValLysThrLeuAlaLysHisPro
ArgTyrArgGlyThrAsnAspThrArgAsnIleSerPheAlaAla
1100
ProGlyLysGlySerAspProGluValAlaTyrMetTrpThrAsn
CysArgGlyGluPheLeuTyrCysAsnMetThrTrpPheLeuAsn
1200
TrpIleGluAsnLysThrHisArgAsnTyrAlaProCysEisIle
LysGlnIleIleAsnIleThrTyrEisLysValGlyArgAsnValTyr
1300
LeuProProArgGluGlyGluLeuSerCysAsnSerThrValThr
SerIleIleAlaAsnIleAspTrpGlnAsnAsnAsnGlnThrAsn
IleThrPheSerAlaGluValAlaGluLeuTyrArgLeuGluLeu
1400
GlyAspTyrLysLeuValGluIleThrProIleGlyPheAlaPro

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Thr Lys Glu Lys Arg Tyr Ser Ser Ala His Gly Arg His Thr Arg
1500
Gly Val Phe Val Leu Gly Phe Leu Gly Phe Leu Ala Thr Ala Gly
Ser Ala Met Gly Ala Arg Ala Ser Leu Thr Val Ser Ala Gln Ser
1600
Arg Thr Leu Leu Ala Gly Ile Val Gln Gln Gln Gln Leu Leu
Asp Val Val Lys Arg Gln Gln Glu Leu Leu Arg Leu Thr Val Trp
1700
Gly Thr Lys Asn Leu Gln Ala Arg Val Thr Ala Ile Glu Lys Tyr
Leu Gln Asp Gln Ala Arg Leu Asn Ser Trp Gly Cys Ala Phe Arg
1800
Gln Val Cys His Thr Thr Val Pro Trp Val Asn Asp Ser Leu Ala
Pro Asp Trp Asp Asn Met Thr Trp Gln Glu Trp Glu Lys Gln Val
Arg Tyr Leu Gln Ala Asn Ile Ser Lys Ser Leu Gln Ala Gln
1900
Ile Gln Gln Glu Lys Asn Met Tyr Glu Leu Gln Lys Leu Asn Ser
Trp Asp Ile Phe Gly Asn Tp Phe Asp Leu Thr Ser Trp Val Lys
2000
Tyr Ile Gln Tyr Gly Val Leu Ile Ile Val Ala Val Ile Ala Leu
Arg Ile Val Ile Tyr Val Val Gln Met Leu Ser Arg Leu Arg Lys
2100
Gly Tyr Arg Pro Val Phe Ser Ser Pro Pro Gly Tyr Ile Gln Gln

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C 2

IleEisIleEisLysAspArgGlyGlnProAlaAsnGluGluThr
2200
GluGluAspGlyGlySerAsnGlyGlyAspArgTyrTrpProTrp
ProlleAlaTyrIleHisPheLeuIleArgGlnLeuIleArgLeu
LeuThrArgLeuTyrSerIleCysArgAspLeuLeuSerArgSer
2300
PheLeuThrLeuGlnLeuIleTyrGlnAsnLeuArgAspTrpLeu
ArgLeuArgThrAlaPheLeuGlnTyrGlyGlyGluTrpIleGln
2400
GluAlaPheGlnAlaAlaAlaArgAlaThrArgGluThrLeuAla
GlyAlaCysArgGlyLeuTrpArgValLeuGluArgIleGlyArg
2500
GlyIleLeuAlaValProArgArgIleArgGluGlyAlaGluIle
AlaLeuLeu***GlyThrAlaValSerAlaGlyArgLeuTyrGlu
2600
TyrSerMetGluGlyProSerSerArgLysGlyGluLysPheVal
GlnAlaThrLysTyrGly
.

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52. (Once Amended) A method of producing a hybridization probe for HIV-2 RNA, said method comprising:

- a) [recombinantly synthesizing a] providing a recombinant cloning vector, wherein said vector comprises nucleic acid [corresponding] complementary to HIV-2 RNA;
- b) cloning said vector in a competent cellular host; and
- c) recovering the DNA-recombinants.

11241 as amended
done

C 4

54. (Once Amended) The method of claim 52, wherein said nucleic acid comprises nucleotides 1-380 of the U3/R region of HIV-2, wherein said nucleotides 1-380 comprise[s] the following sequence:

GTGGAAGGCGAGACTGAAGCAGGAGGAATACCA
TTTAGTTAAAGGACAG
GAACAGCTATACTTGGTCAGGGCAGGAAGTA
ACTAACAGAAACAGCTGAG
ACTGCAGGGACTTTCCAGAAGGGCTGT
AACCAAGGGAGGGACATGGGAG
GAGCTGGTGGGAACGCCCTATATTCTC
GTATAATATACCCGCTGCTTG
CATTGTACTTCAGTCGTCTGCCGGAGAG
GCTGGCAGATTGAGCCCTGGAG
GATCTCTCCAGCACTAGACGGATGAGCCTGGGTGCCCTGCT
GCTAGACTCTCA
CCAGCACTTGCCGGTGTGGCAGACGGCCCCACGCTTGCC
CTGCCTTAA
ACCTTCCTTAAAGCTGCAGTAGAAGCA

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55. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-1566 of the gag gene of HIV-2: **GACGRODN**

MetGlyAlaArgAsnSerValLeuArgGlyLysLysAlaAspGlu
LeuGluArgIleArgLeuArgProGlyGlyLysLysLysTyrArg
LeuLysHisIleValTrpAlaAlaAsnLysLeuAspArgPheGly
100 LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGlnLysIle
LeuThrValLeuAspProMetValProThrGlySerGluAsnLeu
200 LysSerLeuPheAsnThrValCysValIleTrpCysIleEisAla
GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg
ArgHisLeuValAlaGluThrGlyThrAlaGluLysMetProSer
ThrSerArgProThrAlaProSerSerGluLysGlyAsnTyr
300 ProValGlyHisValGlyGlyAsnTyrThrHisIleProLeuSer
ProArgThrLeuAsnAlaTrpValLysLeuValGluGluLysLys
PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly
400 500 CysThrProTyrAspIleAsnGlnMetLeuAsnCysValGlyAsp
HisGlnAlaAlaMetGlnIleIleArgGluIleIleAsnGluGlu
600 AlaAlaGluTrpAspValGlyAsnHisProIleProGlyProLeuPro
AlaGlyGlyGluLeuArgGluProArgGlySerAspIleAlaGlyThr
700 ThrSerThrValGluGluGlnIleGlnTrpMetPheArgProGln

C4

AsnProValProValGlyAsnIleTyrArgArgTrpIleGlnIle
GlyLeuGlnLysCysValArgMetTyrAsnProThrAsnIleLeu 800
AspIleLysGlnGlyProLysGluProPheGlnSerTyrValAsp
ArgPheTyrLysSerLeuArgAlaGluGlnThrAspProAlaVal 900
LysAsnIrpMetThrGlnThrLeuLeuValGlnAsnAlaAsnPro
AspCysLysLeuValLeuLysGlyLeuGlyMetAsnProThrLeu
1000
GluGluMetLeuThrAlaCysGlnGlyValGlyGlyProGlyGln
LysAlaArgLeuMetAlaGluAlaLeuLysGluValIleGlyPro
1100
AlaProIleProPheAlaAlaAlaGlnGlnArgLysAlaPheLys
CysTrpAsnCysGlyLysGluGlyHisSerAlaArgGlnCysArg
1200
AlaProArgArgGluGlyCysTrpLysCysGlyLysProGlyHis
IleMetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu
1300
GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal
ProGlnGlyLeuThrProThrAlaProProValAspProAlaVal
AspLeuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGlu
1400
GlnArgGluArgProTyrLysGluValThrGluAspLeuLeuHis
LeuGluGlnGlyGluThrProTyrArgGluProProThrGluAsp
1500
LeuLeuHisLeuAsnSerLeuPheGlyLysAspGln

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56. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1114-1524 of the gag gene of HIV-2:

C 4

ArgLysAlaPheLys
CysTrpAsnCysGlyLysGlnGlyHisSerAlaArgGlnCysArg
...
1200
AlaProArgArgGlnGlyCysTrpLysCysGlyLysProGlyHis
IleMetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu
1300
GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal
ProGlnGlyLeuThrProThrAlaProProValAspProAlaVal
AspLeuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGlu
1400
GlnArgGlnArgProTyrLysGluValThrGluAspLeuLeuHis
LeuGluGlnGlyGluThrProTyrArgGluProProThrGluAsp
1500
LeuLeuHisLeuAsnSerLeuPheGlyLysAspGln

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57. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-405 of the gag gene of HIV-2:

C4

MetGlyAlaArgAsnSerValLeuArgGlyLysLysAlaAspGlu
LeuGluArgIleArgLeuArgProGlyGlyLysLysLysTyrArg
LeuLysHisIleValTrpAlaAlaAsnLysLeuAspArgPheGly
100 LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGlnLysIle
LeuThrValLeuAspProMetValProThrGlySerGluAsnLeu
200 LysSerLeuPheAsnThrValCysValIleTrpCysIleEisAla
GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg
300 ArgHisLeuValAlaGluThrGlyThrAlaGluLysMetProSer
ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsnTyr
400

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58. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 406-1155 of the gag gene of HIV-2:

Pro Val Gln His Val Gly Gly Asn Tyr Thr His Ile Pro Leu Ser

Pro Arg Thr Leu Asn Ala Trp Val Lys Leu Val Gln Glu Glu Lys Lys

Phe Gly Ala Glu Val Val Pro Gly Phe Gln Ala Leu Ser Glu Gly

500

Cys Thr Pro Tyr Asp Ile Asn Gln Met Leu Asn Cys Val Gly Asp

His Gln Ala Ala Met Gln Ile Ile Arg Glu Ile Ile Asn Glu Glu

600

Ala Ala Glu Trp Asp Val Gln His Pro Ile Pro Gly Pro Leu Pro

Ala Gly Glu Leu Arg Gln Pro Arg Gly Ser Asp Ile Ala Gly Thr

700

Thr Ser Thr Val Gln Glu Glu Ile Gln Trp Met Phe Arg Pro Gln

Asn Pro Val Pro Val Gln Asn Ile Tyr Arg Arg Trp Ile Gln Ile

800

Gly Leu Gln Lys Cys Val Arg Met Tyr Asn Pro Thr Asn Ile Leu

Asp Ile Lys Gln Gly Pro Lys Glu Pro Phe Gln Ser Tyr Val Asp

900

Arg Phe Tyr Lys Ser Leu Arg Ala Glu Gln Thr Asp Pro Ala Val

Lys Asn Trp Met Thr Gln Thr Leu Leu Val Gln Asn Ala Asn Pro

Asp Cys Lys Leu Val Leu Lys Gly Leu Gly Met Asn Pro Thr Leu

1000

Glu Glu Met Leu Thr Ile Cys Gln Gly Val Gln Gly Pro Gly Gln

Lys Ala Arg Leu Met Ala Gln Ala Leu Lys Glu Val Ile Gly Pro

1100

Ala Pro Ile Pro Phe Ala Ala Ala Gln Gln

probe

D
probe
59. (Once Amended) The method of claim 52, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-2673 of the env gene of HIV-2: ENVRE

Met Met Asn Gln Leu Leu Ile Ala Ile Leu Leu Ala Ser Ala Cys

Leu Val Tyr Cys Thr Gln Tyr Val Thr Val Phe Tyr Gly Val Pro

Thr Trp Lys Asn Ala Thr Ile Pro Leu Phe Cys Ala Thr Arg Asn

Arg Asp Thr Trp Gly Thr Ile Gln Cys Leu Pro Asp Asp Asp Asp
100

Tyr Gln Glu Ile Thr Leu Asn Val Thr Gln Ala Phe Asp Ala Trp

Asn Asn Thr Val Thr Glu Gln Ala Ile Glu Asp Val Trp His Leu
200

Phe Glu Thr Ser Ile Lys Pro Cys Val Lys Leu Thr Pro Leu Cys

Val Ala Met Lys Cys Ser Ser Thr Glu Ser Ser Thr Gly Asn Asn
300

Thr Thr Ser Lys Ser Thr Ser Thr Thr Thr Thr Pro Thr Asp

Gln Gln Gln Glu Ile Ser Glu Asp Thr Pro Cys Ala Arg Ala Asp
400

Asn Cys Ser Gly Leu Gly Glu Glu Thr Ile Asn Cys Gln Phe

Asn Met Thr Gly Leu Glu Arg Asp Lys Lys Lys Glu Tyr Asn Gln

500

Thr Trp Tyr Ser Lys Asp Val Val Cys Glu Thr Asn Asn Ser Thr

Asn Gln Thr Gln Cys Tyr Met Asn Eis Cys Asn Thr Ser Val Ile

600

Thr Glu Ser Cys Asp Lys Eis Tyr Trp Asp Ala Ile Arg Phe Arg

Tyr Cys Ala Pro Pro Gly Tyr Ala Leu Leu Arg Cys Asn Asp Thr

700

Asn Tyr Ser Gly Phe Ala Pro Asn Cys Ser Lys Val Val Ala Ser

CY

ThrCysThrArgMetMetGluThrGluThrSerThrTrpPheGly
800
PheAsnGlyThrArgAlaGluAsnArgThrTyrIleTyrTrpHis
GlyArgAspAsnArgThrIleIleSerLeuAsnLysTyrTyrAsn
900
LeuSerLeuHisCysLysArgProGlyAsnLysThrValLysGln
IleMetLeuMetSerGlyHisValPheHisSerEisTyrGlnPro
IleAsnLysArgProArgGlnAlaTrpCysTrpPheLysGlyLys
1000
TrpLysAspAlaMetGlnGluValLysThrLeuAlaLysHisPro
ArgTyrArgGlyThrAsnAspIleArgAsnIleSerPheAlaAla
1100
ProGlyLysGlySerAspProGluValAlaTyrMetTrpThrAsn
CysArgGlyGluPheLeuTyrCysAsnMetThrTrpPheLeuAsn
1200
TrpIleGluAsnLysThrHisArgAsnTyrAlaProCysEisIle
LysGinIleIleAsnThrTspEisLysValGlyArgAsnValTyr
1300
LeuProProArgGluGlyGluLeuSerCysAsnSerThrValThr
SerIleIleAlaAsnIleAspTrpGlnAsnAsnAsnGlnThrAsn
IleThrPheSerAlaGluValAlaGluLeuTyrArgLeuGluLeu
1400
GlyAspTyrLysLeuValGluIleThrProIleGlyPheAlaPro

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ThrLysGluLysArgTyrSerSerAlaHisGlyArgHisThrArg
1500 GlyValPheValLeuGlyPheLeuGlyPheLeuAlaThrAlaGly
SerAlaMetGlyAlaArgAlaSerLeuThrValSerAlaGlnSer
1600 ArgThrLeuLeuAlaGlyIleValGlnGlnGlnGlnGlnLeuLeu
AspValValLysArgGlnGlnGluLeuLeuArgLeuThrValTrp
1700 GlyThrLysAsnLeuGlnAlaArgValThrAlaIleGluLysTyr
LeuGlnAspGlnAlaArgLeuAsnSerTrpGlyCysAlaPheArg
1800 GlnValCysHisThrThrValProTrpValAsnAspSerLeuAla
ProAspTrpAspAsnMetThrTrpGlnGluTrpGluLysGlnVal
ArgTyrLeuGluAlaAsnIleSerLysSerLeuGluGlnAlaGln
1900 IleGlnGlnGluLysAsnMetTyrGluLeuGlnLysLeuAsnSer
TrpAspIlePheGlyAsnTrpPheAspLeuThrSerTrpValLys
2000 TyrIleGluTyrGlyValLeuIleIleValAlaValIleAlaLeu
ArgIleValIleTyrValValGlnMetLeuSerArgLeuArgLys
2100 GlyTyrArgProValPheSerSerProProGlyTyrIleGlnGln

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C4

IleEisIleEisLysAspArgGlyGlnProAlaAsnGluGluThr
2200
GluGluAspGlyGlySerAsnGlyGlyAspArgTyrTyrProTrp
ProlleAlaTyrIleHisPheLeuIleArgGlnLeuIleArgLeu
LeuThrArgLeuTyrSerIleCysArgAspLeuLeuSerArgSer
2300
PheLeuThrLeuGlnLeuIleTyrGlnAsnLeuArgAspTrpLeu
ArgLeuArgThrAlaPheLeuGlnTyrGlyCysGluTrpIleGln
2400
GluAlaPheGlnAlaAlaAlaArgAlaThrArgGluThrLeuAla
GlyAlaCysArgGlyLeuTrpArgValLeuGluArgIleGlyArg
2500
GlyIleLeuAlaValProArgArgIleArgGlnGlyAlaGluIle
AlaLeuLeu***GlyThrAlaValSerAlaGlyArgLeuTyrGlu
2600
TyrSerMetGluGlyProSerSerArgLysGlyGluLysPheVal
GlnAlaThrLysTyrGly

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Please cancel claims 50-51 and 60-61 without prejudice or disclaimer and add the following new claims 62-71.

11241 Sub
KWA3
which number
C5
11241 Sub
62. A method of detecting HIV-2 retrovirus RNA in a biological sample, said method comprising:

- a) contacting said sample with a probe wherein said probe comprises nucleic acid, wherein said nucleic acid is complementary to HIV-2 RNA;
- b) washing the resulting hybrid under stringent conditions; and
- c) detecting said hybrid.

11241 Sub
63. The method of claim 62, wherein said nucleic acid ^{probe} comprises cDNA.

11241 Sub
64. The method of claim 62, wherein said nucleic acid ^{probe} comprises nucleotides 1-380 of the U3/R region of HIV-2, wherein said nucleotides 1-380 comprise the following sequence:

GTGGAACCGCAGACTGAAAGCAAGAGGAATACCATTAGTTAAAGGACAG
GAACAGCTATACTTGGTCAGGGCAGGAAGTAACTAACACAAAACAGCTGAG
ACTGCAGGGACTTTCCAGAAGGGGTGTAACTAACCAAGGGAGGGACATGGGAG
GAGCTGGTGGGAACGCCCTCATATTCTCTGTATAATATACCCGCTGCTTG
CATTGTACTTCACTCGCTCTGGCGAGAGGGCTGGCAGATTGAGCCCTGGAG
GATCTCTCCAGCACTAGACGGATGAGCCTGGGTGCCCTGCTAGACTCTCA
CCAGCACTTGGCCGGTGTGGCAGACGGCCCCACGCTTGCCTGCTTAAAG
ACCTTCCATATAAGCTGGAGTAGAAGCA

D
75
probe
65. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-1566 of the gag gene of HIV-2: GAGRODD

MetGlyAlaArgAsnSerValLeuArgGlyLysLysAlaAspGlu

LeuGluArgIleArgLeuArgProGlyGlyLysLysLysTyrArg

LeuLysHisIleValTrpAlaAlaAsnLysLeuAspArgPheGly

100

LeuAlaGluSerLeuLeuGluSerLysGluGlyCysGlnLysIle

LeuThrValLeuAspProMetValProThrGlySerGluAsnLeu

200

LysSerLeuPheAsnThrValCysValIleTrpCysIleHisAla

GluGluLysValLysAspThrGluGlyAlaLysGlnIleValArg

300

ArgHisLeuValAlaGluThrGlyThrAlaGluLysMetProSer

ThrSerArgProThrAlaProSerSerGluLysGlyGlyAsnTyr

400

ProValGlnHisValGlyGlyAsnTyrThrHisIleProLeuSer

ProArgThrLeuAsnAlaIleTrpValLysLeuValGluGluLysLys

PheGlyAlaGluValValProGlyPheGlnAlaLeuSerGluGly

500

CysThrProTyrAspIleAsnGlnMetLeuAsnCysValGlyAsp

HisGlnAlaAlaMetGlnIleIleArgGluIleIleAsnGluGlu

600

AlaAlaGluTrpAspValGlnHisProIleProGlyProLeuPro

AlaGlyGlnLeuArgGluProArgGlySerAspIleAlaGlyThr

700

ThrSerThrValGluGluGlnIleGlnTrpMetPheArgProGln

C5

AsnProValProValGlyAsnIleTyrArgArgIrpIleGlnIle
800
GlyLeuGlnLysCysValArgMetTyrAsnProThrAsnIleLeu
AspIleLysGlnGlyProLysGluProPheGlnSerTyrValAsp
900
ArgPheTyrLysSerLeuArgAlaGluGlnThrAspProAlaVal
LysAsnTrpMetThrGlnThrLeuLeuValGlnAsnAlaAsnPro
AspCysLysLeuValLeuLysGlyLeuGlyMetAsnProThrLeu
1000
GluGluMetLeuThrAlaCysGlnGlyValGlyGlyProGlyGln
LysAlaArgLeuMetAlaGluAlaLeuLysGluValIleGlyPro
1100
AlaProIleProPheAlaAlaAlaGlnGlnArgLysAlaPheLys
CysTrpAsnCysGlyLysGluGlyHisSerAlaArgGlnCysArg
1200
AlaProArgArgGlyCysTrpLysCysGlyLysProGlyHis
IleMetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu
1300
GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal
ProGlnGlyLeuThrProThrAlaProProValAspProAlaVal
AspLeuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGlu
1400
GlnArgGluArgProTyrLysGluValThrGluAspLeuLeuHis
LeuGluGlnGlyGluThrProTyrArgGluProProThrGluAsp
1500
LeuLeuHisLeuAsnSerLeuPheGlyLysAspGln

D
probe
66. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1114-1524 of the gag gene of HIV-2:

C5

ArgLysAlaPheLys
CysTrpAsnCysGlyLysGluGlyHisSerAlaArgGlnCysArg
...
1200
AlaProArgArgGlnGlyCysTrpLysCysGlyLysProGlyHis
IleMetThrAsnCysProAspArgGlnAlaGlyPheLeuGlyLeu
1300
GlyProTrpGlyLysLysProArgAsnPheProValAlaGlnVal
ProGlnGlyLeuThrProThrAlaProProValAspProAlaVal
AspLeuLeuGluLysTyrMetGlnGlnGlyLysArgGlnArgGlu
1400
GlnArgGluArgProTyrLysGluValThrGluAspLeuLeuHis
LeuGluGlnGlyGluThrProTyrArgGluProProThrGluAsp
1500
LeuLeuHisLeuAsnSerLeuPheGlyLysAspGln

D

67. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-405 of the gag gene of HIV-2:

C5

Met Gly Ala Arg Asn Ser Val Leu Arg Gly Lys Lys Ala Asp Glu
Leu Glu Arg Ile Arg Leu Arg Pro Cys Gly Lys Lys Lys Tyr Arg
Leu Lys His Ile Val Trp Ala Ala Asn Lys Leu Asp Arg Phe Gly
100 Leu Ala Glu Ser Leu Leu Glu Ser Lys Glu Gly Cys Glu Lys Ile
Leu Thr Val Leu Asp Pro Met Val Pro Thr Gly Ser Glu Asn Leu
200 Lys Ser Leu Phe Asn Thr Val Cys Val Ile Trp Cys Ile Eis Ala
Glu Glu Lys Val Lys Asp Thr Glu Gly Ala Lys Glu Ile Val Arg
300 Arg His Leu Val Ala Glu Thr Gly Thr Ala Glu Lys Met Pro Ser
Thr Ser Arg Pro Thr Ala Pro Ser Ser Glu Lys Gly Gly Asn Tyr
400

D

probe

68. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 406-1155 of the gag gene of HIV-2:

Pro Val Gln His Val Gly Gly Asp Tyr Thr His Ile Pro Leu Ser

Pro Arg Thr Leu Asn Ala Trp Val Lys Leu Val Gln Glu Lys Lys

Phe Gly Ala Glu Val Val Pro Gly Phe Gln Ala Leu Ser Glu Gly

500

Cys Thr Pro Tyr Asp Phe Asn Glu Met Leu Asn Cys Val Gly Asp

His Gln Ala Ala Met Gln Ile Ile Arg Glu Ile Ile Asn Glu Gln

600

Ala Ala Glu Trp Asp Val Gln His Pro Ile Pro Gly Pro Leu Pro

Ala Gly Gln Leu Arg Glu Pro Arg Gly Ser Asp Ile Ala Gly Thr

700

Thr Ser Thr Val Gln Gln Glu Ile Gln Trp Met Phe Arg Pro Gln

Asn Pro Val Pro Val Gly Asn Ile Tyr Arg Arg Trp Ile Gln Ile

800

Gly Leu Gln Lys Cys Val Arg Met Tyr Asn Pro Thr Asn Ile Leu

Asp Ile Lys Gln Gln Gly Pro Lys Glu Pro Phe Gln Ser Tyr Val Asp

900

Arg Phe Tyr Lys Ser Leu Arg Ala Glu Gln Thr Asp Pro Ile Val

Lys Asn Trp Met Thr Gln Ile Leu Leu Val Gln Asn Ala Asn Pro

Asp Cys Lys Leu Val Leu Lys Gly Leu Gly Met Asn Pro Thr Leu

1000

Glu Glu Met Leu Thr Asp Cys Gln Gln Val Gln Gly Pro Gln

Lys Ala Arg Leu Met Ala Glu Ala Leu Lys Glu Val Ile Gly Pro

1100

Ala Pro Ile Pro Phe Ala Ala Ala Gln Gln

D
9
probe
69. The method of claim 62, wherein said nucleic acid comprises a nucleotide sequence coding for the following amino acid sequence, wherein said amino acid sequence comprises nucleotides 1-2673 of the env gene of HIV-2: ENVRE

Met Met Asn Glu Leu Leu Ile Ala Ile Leu Leu Ala Ser Ile Cys

Leu Val Tyr Cys Thr Glu Tyr Val Thr Val Phe Tyr Gly Val Pro

Thr Trp Ile Asn Ala Thr Ile Pro Leu Phe Cys Ala Thr Arg Asn

Arg Asp Thr Trp Gly Thr Ile Glu Cys Leu Pro Asp Asp Asp Asp

Tyr Glu Glu Ile Thr Leu Asn Val Thr Glu Ala Phe Asp Ala Trp

Asn Asn Thr Val Thr Glu Glu Ala Ile Glu Asp Val Trp His Leu

Phe Glu Thr Ser Ile Lys Pro Cys Val Lys Leu Thr Pro Leu Cys

Val Ala Ile Lys Cys Ser Ser Thr Glu Ser Ser Thr Glu Asn Asn

Thr Thr Ser Lys Ser Thr Ser Thr Thr Thr Pro Thr Asp

Gln Glu Gln Glu Ile Ser Glu Asp Thr Pro Cys Ala Arg Ala Asp

Asn Cys Ser Gly Leu Gly Glu Glu Thr Ile Asn Cys Gln Phe

Asn Met Thr Gly Leu Glu Arg Asp Lys Lys Glu Tyr Asn Glu

500
Thr Trp Tyr Ser Lys Asp Val Val Cys Glu Thr Asn Asn Ser Thr

Asn Glu Thr Glu Cys Tyr Met Asn Ei Cys Asn Thr Ser Val Ile

600
Thr Glu Ser Cys Asp Lys Ei Tyr Trp Asp Ala Ile Arg Phe Arg

Tyr Cys Ala Pro Pro Gly Tyr Ala Leu Leu Arg Cys Asn Asp Thr

700
Asn Tyr Ser Gly Phe Ala Pro Asn Cys Ser Lys Val Val Ala Ser

C5

ThrCysThrArgMetMetGluThrGlnThrSerThrTrpPheGly
800
PheAsnGlyThrArgAlaGluAsnArgThrTyrIleTyrTrpHis
GlyArgAspAsnArgThrIleIleSerLeuAsnLysTyrTyrAsn
900
LeuSerLeuHisCysLysArgProGlyAsnLysThrValLysGln
IleMetLeuMetSerGlyHisValPheHisSerEisTyrGlnPro
IleAsnLysArgProArgGlnAlaTrpCysTrpPheLysGlyLys
1000
TrpLysAspAlaMetGlnGluValLysThrLeuAlaLysHisPro
ArgTyrArgGlyThrAsnAspThrArgAsnIleSerPheAlaAla
1100
ProGlyLysGlySerAspProGluValAlaTyrMetTrpThrAsn
CysArgGlyGluPheLeuTyrCysAsnMetThrTrpPheLeuAsn
1200
TrpIleGluAsnLysThrHisArgAsnTyrAlaProCysEisIle
LysGlnIleIleAsnThrTrpEisLysValGlyArgAsnValTyr
1300
LeuProProArgGluGlyGluLeuSerCysAsnSerThrValThr
SerIleIleAlaAsnIleAspTrpGlnAsnAsnAsnGlnThrAsn
IleThrPheSerAlaGluValAlaGluLeuTyrArgLeuGluLeu
1400
GlyAspTyrLysLeuValGluIleThrProIleGlyPheAlaPro

ThrLysGluLysArgTyrSerSerAlaHisGlyArgHisThrArg
1500
GlyValPheValLeuGlyPheLeuGlyPheLeuAlaThrAlaGly
SerAlaMetGlyAlaArgAlaSerLeuThrValSerAlaGlnSer
1600
ArgThrLeuLeuAlaGlyIleValGlnGlnGlnGlnLeuLeu
AspValValLysArgGlnGlnGluLeuLeuArgLeuThrValTrp
1700
GlyThrLysAsnLeuGlnAlaArgValThrAlaIleGluLysTyr
LeuGlnAspGlnAlaArgLeuAspSerTrpGlyCysAlaPheArg
1800
GlnValCysHisThrThrValProIleValAsnAspSerLeuAla
ProAspTrpAspAsnMetThrTrpGlnGluTrpGluLysGlnVal
ArgTyrLeuGluAlaAsnIleSerLysSerLeuGluGlnAlaGln
1900
IleGlnGlnGluLysAsnMetTyrGluLeuGlnLysLeuAsnSer
TrpAspIlePheGlyAsnTyrPheAspLeuThrSerTrpValLys
2000
TyrIleGlnTyrGlyValLeuIleIleValAlaValIleAlaLeu
ArgIleValIleTyrValValGlnMetLeuSerArgLeuArgLys
2100
GlyTyrArgProValPheSerSerProProGlyTyrIleGlnGln

C5

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C5

IleEisIleEisLysAspArgGlyGlnProAlaAsnGluGluThr
2200
GluGluAspGlyGlySerAsnGlyGlyAspArgTyrTrpProTrp
ProIleAlaTyrIleHisPheLeuIleArgGlnLeuIleArgLeu
LeuThrArgLeuTyrSerIleCysArgAspLeuLeuSerArgSer
2300
PheLeuThrLeuGlnLeuIleTyrGlnAsnLeuArgAspTrpLeu
ArgLeuArgThrAlaPheLeuGlnTyrGlyCysGluTrpIleGln
2400
GluAlaPheGlnAlaAlaAlaArgAlaThrArgGluThrLeuAla
GlyAlaCysArgGlyLeuTrpArgValLeuGluArgIleGlyArg
2500
GlyIleLeuAlaValProArgArgIleArgGluGlyAlaGluIle
AlaLeuLeu***GlyThrAlaValSerAlaGlyArgLeuTyrGln
2600
TyrSerMetGluGlyProSerSerArgLysGlyGluLysPheVal
GlnAlaThrLysTyrGly

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